

Listing of Claims

This listing of claims will replace all prior versions and listing of claims in the Application.

Claims 1-12 (Canceled)

Claim 13 (CURRENTLY AMENDED): An orthopedic implant flexible intramedullary nail comprising:

a straight flexible nail of universal length being adapted in use for insertion into a medullary canal of bones and capable for repositioning and fixing fragments of bones having ~~ductility of~~ at least 15% of elongation of nail on tensile stress ~~and at least 600 Mega Pascal ultimate tensile strength~~ and having two ends and a shaft where said ends are having a blunt conical pathfinder tip and said shaft and said ends are having flexibility such that it is capable to be bowed to any angle or any curvature to adapt said medullary canal and capable to maintain relation of fragments of bones having multiple contact points of fixation.

Claim 14 (CURRENTLY AMENDED): An orthopedic implant flexible ~~intramedullary~~ nail of claim 13 wherein said flexible nail is ~~characterized having mechanical property of ductility as percentage of elongation of at least 15% on tensile stress and at the same time~~ having ultimate tensile strength of at least 600 Mega Pascal.

Claim 15 (PREVIOUSLY PRESENTED): An orthopedic implant flexible intramedullary nail of claim 13 wherein said flexible nail is characterized having made from material comprising one of 316 L (low carbon) or 316 LVM (low carbon vacuum melted) stainless steel or other biocompatible material.

Claim 16 (CURRENTLY AMENDED): An orthopedic implant flexible intramedullary nail of claim 13, wherein said ends are identical ~~flexible nail is characterized having two said ends where said ends are having said blunt conical pathfinder tip for better gliding in said medullary canal.~~

Claim 17 (CURRENTLY AMENDED): An orthopedic implant intramedullary flexible nail assembly being adapted in use for insertion into a medullary canal of long bones comprising:

A) a plurality of flexible intramedullary nails wherein each of said flexible intramedullary nails comprising a straight flexible nail of universal length being adapted in use for insertion into said intramedullary canal of long bones and capable for repositioning and fixing fragments of bones having identical two ends and a shaft where said ends are having a blunt conical pathfinder tip and said shaft and said ends are having flexibility such that it is capable to be bowed to any angle or any curvature to adapt said medullary canal and capable to maintain relation of fragments of bones having multiple contact points of fixation, wherein said flexible nail is characterized having ~~mechanical property of ductility as~~ percentage of elongation of at least 15% on tensile stress ~~and at the same time having ultimate tensile strength of at least of 600 Mega-Pascal~~; and

B) a proximal fixation device comprising:

- a) an intramedullary rod not extending across a fracture zone having a shaft part with a plurality of longitudinal grooves spaced around a periphery of the said intramedullary rod, the said intramedullary rod having a head portion ~~adaptable to an end cap and temporarily adaptable to a suitable targeting device, said intramedullary rod is tapering to a blunt point at a distal end~~
- b) an end cap adaptable to said head portion of said intramedullary rod

Claim 18 (CURRENTLY AMENDED): An orthopedic implant assembly of claim 17 wherein said shaft part of said ~~proximal fixation device~~ intramedullary rod has a plurality of holes for a plurality of interlocking screws, wherein said holes are placed in either transverse direction or an angled direction to a long axis of said shaft part of said ~~proximal fixation device~~ intramedullary rod to receive said interlocking screws.

Claim 19 (PREVIOUSLY PRESENTED): An orthopedic implant assembly of claim 17, wherein said proximal fixation device is characterized having said intramedullary rod having said plurality of longitudinal grooves wherein said each of grooves being deep less than diameter of one of said flexible nails and said grooves are spaced around said periphery of said intramedullary rod for holding said flexible nails apart from one another.

Claim 20 (PREVIOUSLY PRESENTED): An orthopedic implant assembly of claim 17, wherein said intramedullary rod and said end cap are made from material comprising one of 316 L(low carbon) or 316 LVM (low carbon vacuum melted) stainless steel or other biocompatible material.

Claim 21 (CURRENTLY AMENDED): An orthopedic implant assembly of claim 17, wherein said intramedullary rod is having said a distal end tapering to a said-blunt point capable for easy insertion into said medullary canal.

Claim 22 (CURRENTLY AMENDED): An orthopedic implant assembly of claim 17, wherein said end cap is comprising a head part with a plurality of holes to retain a plurality of hooked cut ends of said flexible nails and a shaft part to have final attachment with said head portion of said ~~proximal fixation device~~ intramedullary rod to have proximal anchor of plural said flexible nails to add stability.

Claim 23 (WITHDRAWN, CURRENTLY AMENDED): A plier cum knurler cum cutter to be used with a flexible intramedullary nail to hold, to cut and to make surface rough of a cut end of said flexible nail, said flexible intramedullary nail comprising:

a straight flexible nail of universal length being adapted in use for insertion into a medullary canal of a bones and capable for repositioning and fixing fragments of said bones, having ductility of at least 15% of elongation of nail on tensile stress ~~and at least 600 Mega Pascal ultimate tensile strength~~ and having two ends and a shaft where said ends are having a blunt conical pathfinder tip and said shaft and said ends are having flexibility such that it is capable to be bowed to any angle or any curvature to adapt said medullary canal and capable to maintain relation of fragments of bones having multiple contact points of fixation; said plier cum knurler cum cutter comprising:

~~a plurality of jaws having a knurler part surface with a nose, and a cutting part and a handle part wherein pressing said handle part on operation of said plier cum knurler cum cutter~~ said cutting part cut said flexible nail at a distance substantially equal to 1 centimeter ~~when said nose part is touching~~ from an entry point on a surface of said bone ~~where said jaws are~~

~~holding said flexible nail and said knurler part surface makes a surface rough of said cut ends of said flexible nail rough for to have easy removal later on. and at the same time keeping protruding out said cut end of said flexible nail substantially equal to 1cm of cut end of said flexible nail to prevent soft tissue irritation.~~

Claim 24 (CURRENTLY AMENDED): An article of manufacture used to treat bones fractured into a plurality of fragments, where said bone is having a medullary canal, said article of manufacture comprising:

a proximal fixation device ~~positionable~~ positioned at least partially in said medullary canal not extending across a fracture zone and designed to guide insertion of a said flexible nail into said medullary canal covering said plurality of fragments, said fixation device also designed to hold said flexible nail in said medullary canal while said fragments heal to form said bone, wherein said proximal fixation device comprises ; a) an intramedullary rod having a shaft part with a plurality of longitudinal grooves, with each groove being deep less than a diameter of each of said flexible nails and spaced around the periphery of the said rod and a head portion ;and b) an end cap adaptable to said head portion of said intramedullary rod

Claim 25 (CURRENTLY AMENDED): The article of manufacture of claim 24, wherein said intramedullary rod has a head portion ~~adaptable to an end cap~~ and temporarily adaptable to a suitable targeting device, said intramedullary rod is tapering to a blunt point at a distal end; and

said end cap comprising a head part with a plurality of holes to retain a hooked cut ends of said flexible nails and a shaft part adaptable to have final attachment with said head portion of said ~~proximal fixation device~~ intramedullary rod.

Claim 26 (CURRENTLY AMENDED): The article of manufacture of claim 24, wherein said shaft part has a plurality of holes for a plurality of interlocking screws wherein said holes are placed in either transverse direction or an angled direction to a long axis of said shaft part of said ~~proximal fixation device~~ intramedullary rod to receive said interlocking screws.

Claim 27 (PREVIOUSLY PRESENTED): The article of manufacture of claim 24, wherein said intramedullary rod and said end cap are made from biocompatible material.

Claim 28 (WITHDRAWN,CURRENTLY AMENDED): A method of treating a bone having a medullary canal fractured into a plurality of fragments using at least one intramedullary flexible nail and providing means for removal of said flexible nail without irritating soft tissue comprising steps of :

- a) making an entry in bone leading to said medullary canal of said bone; and
- b) pushing said flexible nail through said entry into said medullary canal irrespective to shape of said medullary canal, said flexible nail comprising: a straight flexible nail of universal length being adapted in use for insertion into a medullary canal of bones and capable for repositioning and fixing fragments of bones, having ~~ductility of~~ at least 15% of elongation of nail on tensile stress ~~and at least 600 Mega Pascal ultimate tensile strength~~ and having two ends and a shaft where said ends are having a blunt conical pathfinder tip and said shaft and said ends are having flexibility such that it is capable to be bowed to any angle or any curvature to adapt said medullary canal and capable to maintain relation of fragments of bones having multiple contact points of fixation.

Claim 29 (WITHDRAWN, CURRENTLY AMENDED): The method of treating a bone of claim 28, further comprising:

after final pushing a non leading end is cut substantially keeping 1 cm or less outside said entry to prevent soft tissue irritation and a surface of a cut end of said flexible nail is roughened to have grip for easy removal of said flexible nail later on.